



the astrogram

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NUMBER 22
September 11, 1970

National Aeronautics and Space Administration • Ames Research Center, Moffett Field, California

NASA Looking Ahead to New Programs

In spite of the recent cutbacks in personnel and budget levels NASA is looking to the future with well-founded optimism.

According to George M. Low, NASA Deputy Administrator, new and challenging programs are being developed in Aeronautics, in Space Science and Space Application, and in Manned Space Flight. The agency is well underway in its transition to a diversified and balanced U.S. space program, and there are many stimulating and compelling opportunities in future space programs.

For those who question NASA's future it may be well to remember a statement made by President Nixon when he discussed the goals of the agency last March: "We must realize that space activities will be a part of our lives for the rest of time. We must think of them as part of a continuing process — one which will go on day in and day out, year in and year out — and not as a series of separate leaps, each requiring a massive concentration of energy and will and accomplished as a crash timetable. Our space program should not be planned in a rigid manner, decade by decade, but on a continuing flexible basis, one which takes into account our changing needs and our expanding knowledge. . . ."

Without question the space program has provided many direct and indirect benefits and is continuing to create new wealth and capabilities.

Looking to the future of the Ames Research Center the Director, Dr. Hans Mark, has said, "We are fortunate in having some very challenging technical problems to work on and this presents us with most exciting prospects for the future."

Among the most recent commitments is the establishment of a STOL Project Office. The Center's strong position in aeronautics has made possible this new avenue of research and is an important part of future efforts. Within this program of Aeronautical Research and Development at Ames the new STOL Project Office will develop a STOL research aircraft and experiments to be conducted with this aircraft.

Early in the year a V/STOL Short-Haul Team was also estab-

lished at Ames. This high-priority activity was set up by NASA at the request of the Department of Transportation to formulate a National Transportation Policy. Ames is presently working on a plan for an interurban aircraft for short haul segments of a civilian air transportation system.

Another new area in which Ames is involved is the Office of Advanced Research and Technology's Space Station/Base technology program. Ames is also playing an important role in the supporting research and technology for the Space Shuttle. This is a space transportation system to form a link between the Earth and orbiting space stations and will serve as a preliminary base for further exploration of the Moon and the solar system.

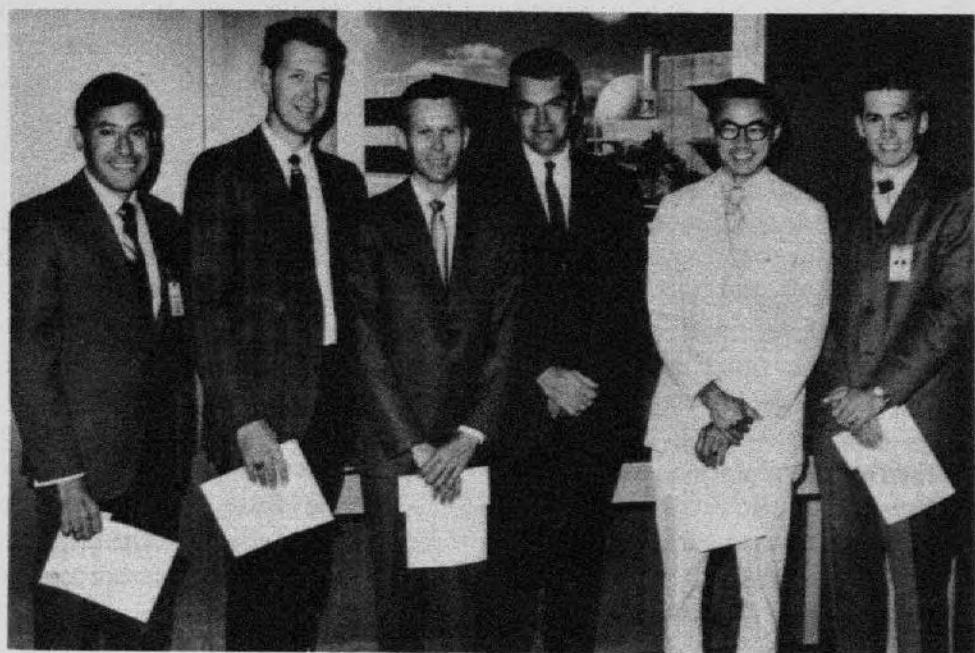
Many other forward-looking programs continue at Ames and in this first year of a new decade, with thirty years of experience behind it, the Center is prepared to meet the exciting challenges of the future.

Bainbridge Named Ames CFC Chairman for 1971



Ross G. Bainbridge, Chief of the Computer Systems Branch, has been named Chairman of the Center's 1971 Santa Clara County Combined Federal Campaign (CFC) by Dr. Hans Mark, Ames Director.

The Combined Federal Campaign is a one-time solicitation for voluntary health, welfare and character-building agencies. The Santa Clara County United Fund which conducts a fund drive each fall, the National Health and International Service Agencies, whose solicitation is in the spring, cooperate locally in this single campaign for Federal personnel.



A NASA SPECIAL ACHIEVEMENT AWARD . . . was presented recently to members of the Ames research team from the Systems Engineering Division who contributed to the development and implementation of a unique Telemetry Coding Experiment for the Pioneer Program. The team, shown here with Dr. Hans Mark, (third from left) Ames Director, included (from l to r) Ruben Ramos, Terry L. Grant, Principal Investigator Dr. Dale R. Lumb, Henry Lum, Jr., and Larry B. Hofman. A sixth member of the team was Lt. Robert J. Keeler, formerly on military duty at Ames.

NASA Special Achievement Award to Ames Team for Telemetry Experiment

A NASA Special Achievement Award in the amount of \$5000, the largest monetary award which the agency is authorized to approve, was presented recently to a team of Ames research scientists in recognition of contributions to scientific progress in the field of deep space radio communication.

The team, headed by Dr. Dale R. Lumb, Principal Investigator, included Larry B. Hofman, Henry Lum, Jr., Terry L. Grant, and Ruben Ramos, all assigned to the Spacecraft Data Systems Branch of the Systems Engineering Division. A sixth member of the team was Lt. Robert J. Keeler, a military assignee who has completed his tour of duty at Ames.

Following intensive theoretical studies and laboratory simulations of error detection and correction methods applicable to deep space telemetry links, the Ames team developed a technique that is capable of doubling the data transmission rate of a spacecraft communication system.

The predicted theoretical performance improvement was verified by a Telemetry Coding Experiment which was developed and imple-

mented for the Pioneer Program. The excellence of the group effort has been attested to by the success of the in-flight experiment performance from the launch of Pioneer IX in November, 1968 to the present.

In a letter from the Director, Dr. Hans Mark, commending the group he said, "The magnitude of this total effort is fully appreciated . . . Your exceptional performance of duty and the superior achievements of the entire team have brought great credit to each of you, Ames Research Center, and the National Aeronautics and Space Administration. My compliments on your accomplishment."

Bloodmobile at Ames Sept. 18

The Santa Clara County Bloodmobile, sponsored by the Palo Alto Chapter of the American Red Cross, will visit Ames on Friday, Sept. 18 from 9 a.m. to 1 p.m. There continues to be an urgent need for blood and all employees who can are asked to participate in this worthwhile program.

New Medical Staff Operating Health Unit

The services of the Peninsula Industrial Medical Clinic have been contracted to operate the Ames Health Unit and to provide a comprehensive in-plant occupational medical program.

The Clinic is an arm of the Medical Resources Foundation of Palo Alto, a non-profit research organization primarily engaged in studies of health delivery systems and computer applications to medicine. At present the Clinic provides 80 client companies in the area with medical support.

As in the past, the Ames Health Unit is staffed each normal work day with a medical doctor, a registered nurse and a secretary. Three doctors from the Clinic are servicing the Center on an alternating basis. They are Dr. Joseph Ladou, Founder and Director of Medical Resources Foundation; Dr. A. Philip Gelpi, an internist with a special interest in tropical disease research; and Dr. Gunnar Sevelius, a cardiologist who has been conducting extensive research in the prevention of heart disease.

During a recent interview with Dr. Ladou, he stated that the Ames Health Unit program is one of the most complete in the area. He and the other professional members of his staff are highly enthusiastic about the equipment available to them here and are pleased with the opportunity to provide medical services to Ames employees.

The objectives of the Ames program of preventive medical care deal constructively with the health of employees as it relates to their work. This includes the protection of the health and well being of the employee against the hazards of the work environment; pre-placement physical examinations; periodic examinations at appropriate intervals to determine whether or not the employee's health is compatible with his job assignment, and to detect any evidence of ill health which might be attributed to his employment; and to assure adequate medical care and rehabilitation of the occupationally ill or injured employee.

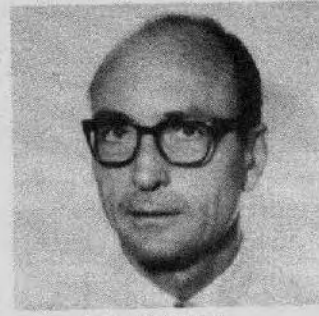
Among other services provided by the Ames Health Unit is immunizations for Center-authorized foreign travel.

DR. JOSEPH LADOU

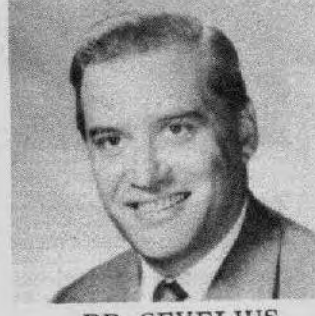
Dr. Ladou has specialized in predictive medicine, computer applications to medicine, pharmacology, and experimental therapeutics. He was graduated from the University of California, San Francisco, with a B.S. degree in medical science, M.S. degree in pharmacology and M.D. degree. During that time he earned pharmacology fellowships at the University of California School of Medicine, Massachusetts General Hospital, and Harvard School of Medicine. From 1964 to 1967 he served as a general medical officer



DR. LADOU



DR. GELPI



DR. SEVELIUS

with the U.S. Army in Nuremberg and Mannheim, Germany. After completing his tour of military duty Dr. Ladou was research physician and project leader in the Health Planning Division, Stanford Research Institute. In 1968 he founded and became medical director of Predictive Systems, Inc., Palo Alto, developer of automated low-volume multiphasic health testing systems. He is a member of Sigma Xi, San Mateo County Medical Society, California Medical Association and the American Medical Association.

DR. PHILIP GELPI

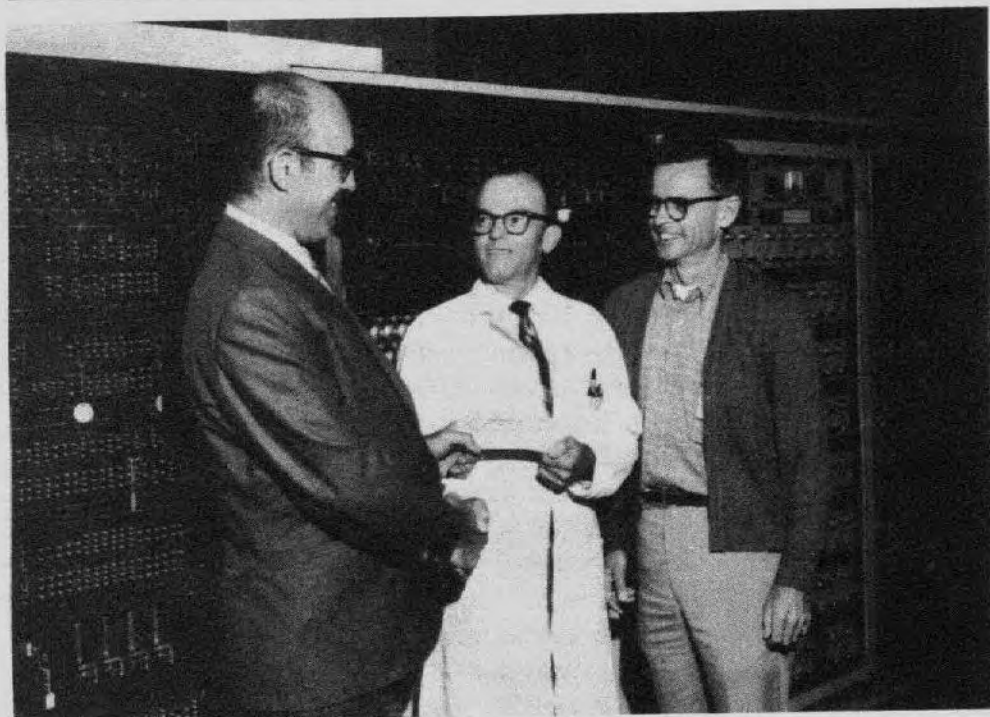
Dr. Gelpi received his medical training at the University of California and interned at Santa Clara County Hospital, San Jose. He served as a lieutenant in the U.S. Navy Reserve Medical Corps on active duty for two years, completing his tour in 1952. He was assistant resident in medicine at the University of California Medical Center, San Francisco, and at the San Francisco County Hospital; senior resident in medicine at Santa Clara County Hospital, and staff physician on the internal medicine service at the Veterans Administration Hospital, Fresno. In 1957 he earned Board certification in internal medicine, and the same year was a Fellow in hematology at the V. A. Hospital in San Francisco. For nearly ten years he was chief of internal medicine and chief of the medical services unit of the Medical Department of the Arabian-American Oil Company, Dhahran, Saudi Arabia. During that time he took a leave of absence for a year's graduate medical training in immunophysiology at Stanford Medical School. At present Dr. Gelpi is Chief of adult medicine and the medical director of the Office of Economic Opportunity sponsored neighborhood health center in East Palo Alto. His present teaching assignments are: Assistant Clinical Professor of Medicine, department of Medicine, Stanford Medical School; Research Associate, department of physiology, Stanford Medical School; Lecturer in Tropical Medicine, Hooper Foundation, University of California Medical Center; Attending Physician, Veterans Administration Hospital, Palo Alto; and Attending Physician, Santa Clara

Valley Medical Center. His membership in professional organizations include the American Society of Tropical Medicine and Hygiene, and Royal Society of Tropical Medicine.

DR. GUNNAR SEVELIUS

Dr. Gunnar Sevelius was born in Alvesta, Sweden. He was graduated from the College of Vasteras, Sweden, with a B.S. degree in 1949, and in 1955 earned his M.D. degree from the Karolinska Institutet, Stockholm, Sweden. His internship was at the University of Oklahoma Medical Center as was his residency in medicine. Later, he became an instructor in medicine there. He has investigated acute, subacute, and chronic changes in circulatory and pulmonary systems resulting from ageing and functional fatigue. This research was done in the Department of Biodynamics, Federal Aeronautics Agency, Oklahoma City. In 1963 he was a clinical investigator in the Department of Cardio-Respiratory Patho-Physiology at the Walter Reed Army Hospital, Washington, D.C. For the past five years he has been at the University of Oklahoma Medical Center, first as a Research Associate and later as an Assistant Professor of Research Medicine in the Department of Medicine. Dr. Sevelius is presently a member of the American Heart Association, American Federation for Clinical Research, American Nuclear Society, and the Southwestern Society for Nuclear Medicine.

Dr. Ladou has announced the addition of a fourth doctor to the Ames Medical Unit staff. Dr. Mary Burchell, a surgeon, will be joining the Clinic in mid-September. For the past five years she has practiced in Utah and Berkeley. Her particular interest is in occupational medicine and surgical problems that arise in industry. There will be more details on Dr. Burchell's professional background in a future issue of "The Astrogram."



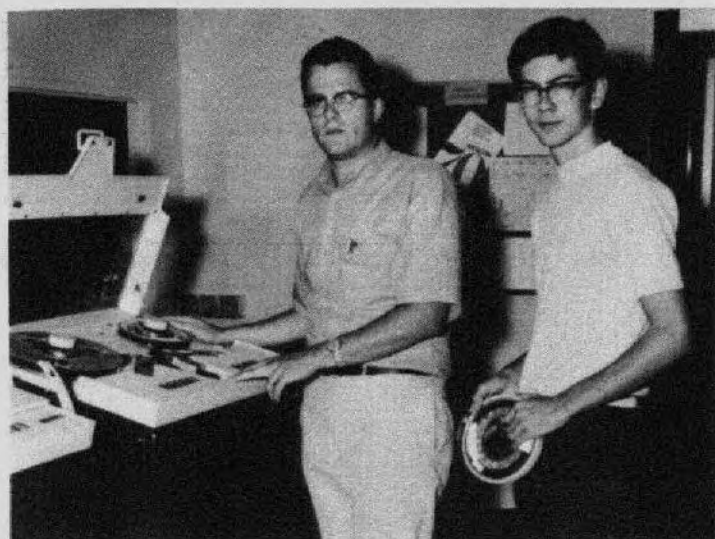
MODIFICATION EARNS CASH AWARD . . . Sylvester C. Whitaker (center), Electronic Instrument Branch, proposed a modification to the cooling units of the 210 Data Processing Systems in the 3.5 Foot Wind Tunnel which has resulted in first-year savings to the Center of \$4580. The adopted suggestion was recommended for an award of \$430 based on the first-year savings. John Dimeff (left), Chief of the Instrumentation Division, is pictured as he presented the award and congratulated Mr. Whitaker on his accomplishment. Also participating in the ceremony, which was held at the location of the Beckman unit, was Richard E. Harman (right), EIB Chief.

Room 134
Admin. Mgt. Building
Phone 2385

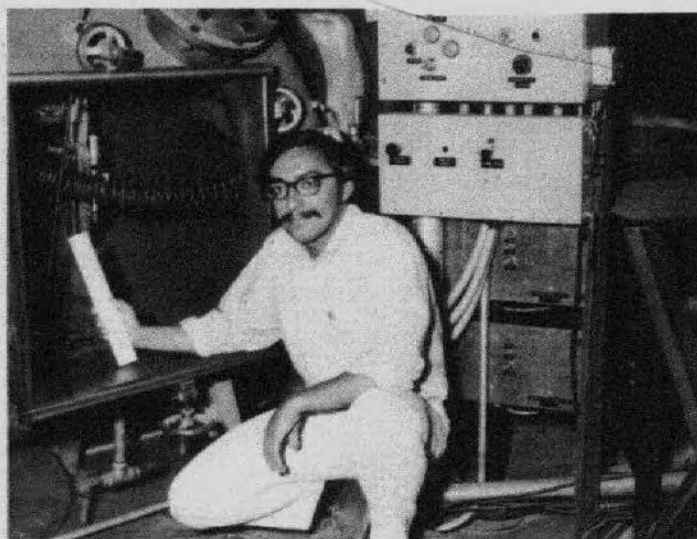
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Deadline for contributions:
Thursday between publication dates



TEACHER AND STUDENT . . . Paul L. Abbott (left), a science teacher from Connecticut, and Howard Palmer, Jr. (right), a high school student from San Jose, are pictured with the computer used in the experiment they carried out this summer at Ames. Mr. Abbott is one of the high school teachers who took part this summer in the nine-week program conducted jointly by Ames and Stanford University.



LIFE ON MARS . . . was the subject of an experiment involving insects and arachnids, made this summer by Ronald Saltinski, Exobiology Division of Detroit, Michigan. Mr. Saltinski and twenty-seven other science teachers from various parts of the United States took part in the Stanford-Ames High School Biology Teacher's Institute held here at the Center.

Science Teachers Attend Stanford-Ames Institute

This is the fourth article in a series, describing the various summer programs at Ames. This article deviates slightly from the past three in that it describes a program designed for teachers rather than students.

Twenty-eight teachers of senior high school Biology, Chemistry and Physics from several different parts of the United States came to participate in the Stanford-Ames High School Biology Teacher's Institute conducted jointly by Ames and Stanford University this summer. The nine-week program consisted of general instruction in space biology and an independent research project. Although both the instruction and the research were carried out at Ames, the participants received 12 college credits for their work, through Stanford University. The teachers were also housed, for the most part, in facilities provided by Stanford.

The program, which ended August 21, began with a preliminary introduction to space biology consisting of lectures which developed selected aspects of the discipline. Members of the Stanford Biological Sciences Department presented lectures which established a biological background in an area subsequently developed as topics in space biology by the staff of the Center's Life Sciences Research Laboratory.

PRIMARY EFFORT

The primary effort of each participant was devoted to the independent investigation of some aspect of space biology in conjunction with one of the research groups. A research supervisor and the participant jointly planned a project which

was carried to its conclusion during the nine-week period.

Formal lectures were presented three mornings a week and except for seminars and discussion groups the participant was free to pursue his research project.

The institute was intended for high school biology, chemistry or physics teachers who are currently teaching or expressing an interest in a research-oriented high school course of study. This would often be the type of course where students pursued independent or group projects. Participants were required to be U.S. citizens. Preference was given to applicants with two or more years of teaching and the indication they would continue to pursue a teaching career. The applicant's academic background in his science field was at least equivalent to that attained by the completion of 3 years of an undergraduate major in the field.

The participants chose from five aspects of space biology for their independent research: Chemical Evolution, Biological Adaptation, Life Detection Systems, Environmental Biology and Life Support Systems.

According to Dr. Ponnampuruma, originator and Co-Director of the Institute, there were several excellent experiments conducted by the teachers this summer. For instance, in the Exobiology Division, Ronald Saltinski, of Detroit, Michigan, chose to research the survival capabilities of insects and arachnids in a partially simulated Martian environment. In order to provide insight into questions regarding life on the planet Mars, Mr. Saltinski exposed five different types of in-

sects and arachnids to Martian diurnal temperatures and ultraviolet radiation flux. Three of the two types of insects and arachnids were found to be capable of good survival levels under these conditions.

Paul L. Abbott came to Ames from Connecticut for the nine-week program. Mr. Abbott worked with Dr. Robert N. Linebarger, Biomedical Research, and Howard Palmer, Jr. a student from San Jose. Mr. Abbott deviated slightly from the usual research project, by delving into various levels of computer science technology. His general hypothesis was that a typical secondary school science teacher, trained prior to the introduction of computer science techniques, possessing a minimal mathematical background could, in a nine week course, arrive at a significant level of computer science awareness. He found that his previous experience with the highly interactive computer language, IBM APL/360, was of little importance. He concluded that any high school science teacher could achieve what he had this summer, without previous computer experience.

BLUEPRINT

In addition to their research, the teachers also developed a blueprint for some basic experiments in Space Biology which could be carried out by high school students.

The institute was originally conceived by Dr. Cyril A. Ponnampuruma, Chief, Chemical Evolution Branch. Working as Co-Director with Charles Baxter, Stanford University and Garth Hull, Educational Services Officer in the Public Affairs Office, Dr. Ponnampuruma

Commercial Pilot Ground School Class

The Commercial Pilot Ground School Course, now being offered in the Palo Alto Adult School, is open to new students in the navigation and radio phase and class will begin Thursday, September 17.

Instructor for the course is Ames research engineer Charles T. Jackson, Jr. The course is designed to prepare pilots for FAA private and commercial pilot written examinations, and updates those who wish to increase their aeronautical background. It should be noted that no previous aeronautical knowledge is required for enrollment. Students may arrange for link trainer use.

A follow-up course in Instrument Flying Ground School is also being offered during the Autumn Quarter.

Anyone interested in enrolling should do so early since the class is limited to twenty-five. For information call 325-4473 between 8:30 a.m. and 3:30 p.m. The enrollment fee is \$5.

Life Scout Needs Help in Waterways Cleanup

Life Scout Patrick Lonzo of Boy Scouts of America, Troop 77, Santa Clara, is working for his Eagle Scout award and is currently undertaking the project of cleaning up the Santa Clara waterways (Calabazas and Saratoga Creeks). Troop 77 has already cleaned and hauled to the dump trash, bottles and cans from about one mile of Calabazas Creek with the help of their fathers.

Pat needs more volunteers to help get out the litter and haul it away. This litter ends up in the Bay back-waters so they are anxious to clean it up before the rains wash it into the Bay.

Anyone interested in donating time or equipment, soft drinks and such, for the workers please call Pat Lonzo at 243-8752, or write him at 2319 Fordham Drive, Santa Clara. His father is "Chuck" Lonzo, Photo Lab, ext. 2338.

organized and established the Summer Institute at Ames and Stanford. Dr. Frederick B. Tuttle, head of NASA Educational Programs, came from Headquarters to observe the final presentations of the dissertations. At the presentations, Mr. Tuttle said he felt this to be an excellent program, with possible future applications, elsewhere.



CERTIFICATES OF RECOGNITION . . . were presented to Summer Aids (l to r) Tommie Smith, Procurement Operations Branch, Susan Fong, Life Detection Systems Branch, Theresa Gilmartin, Hypersonic Free Flight Branch, Kathy Perkins, Aeronautics Division and 1970 Summer Aid Counselor, Thomas C. Jones. Mr. Smith recieved a \$25 Savings Bond with his certificate, in special recognition for exceptional meritorious achievement.



SUMMER AID . . . Calvin Chen (center) Graphics and Exhibits Branch, was presented with a Certificate of Recognition and \$25 Savings Bond in a special ceremony, August 27. Calvin was unable to attend the scheduled ceremony, during which four other summer aids were also awarded certificates. Harold Gerdes, Chief of the Employment Branch, made the informal presentation.

Summer Aid Award Assembly at Ames

An awards ceremony for the fifty Summer Aids who worked at Ames this year, was held August 28. Five students were honored with Certificates of Recognition, signed by the Director, Dr. Hans Mark. Two of the five also received \$25 Savings Bonds.

The Savings Bonds and Certificates were presented to Calvin Chen for his work with Harry DeVoto in the Graphics and Exhibits Branch, and Tommie Smith who worked with Joe Camp in the Procurement Operations Branch.

Susan Fong, who aided Ames chemist Bonnie Berdahl, in Life Detection Systems, received a Certificate of Recognition. Theresa M. Gilmartin also received a Certificate of Recognition, and was with Robert Carros in the Hypersonic Free Flight Branch. Kathy Perkins, who returned to her home in Alabama the day after receiving her Certificate of Recognition, assisted Irene Tharpe in the office of the Aeronautics Division.

The honors were conferred on the five students for excellence of work done at Ames, lack of tardiness or absenteeism, and strong recommendations from their respective supervisors.

Tom Jones, Summer Aid Counselor at Ames this summer, was also honored with a certificate of Recognition, signed by the Ames Director and presented by Harold Gerdes, Chief of the Employment Branch.

Before the award presentations,

"Nature has endowed women with so much power that it is well the law circumscribes them."

Mr. Gerdes spoke to the students about their summer at Ames. He congratulated the 50 students on the effort and dedication they put forth and said, "The success of the program makes it possible for other students to take advantage of the same opportunity next summer."

Mr. Gerdes concluded by urging the students to seek further education and invited them to apply for work at the Center again next year.

Tom Jones, Summer Aid Counselor also expressed his appreciation for the Aids' efforts this summer. He was pleased with the program results and was proud to have been a part of the group. He was sorry, he said, that he could not give fifty awards.

SOFTBALL

. . . by Grantland Wheat

The Fighting Pumas clinched the Ames softball championship by edging the Mighty Instrumentals 10-8 in the second-half playoff. The P's overcame an early five-run deficit, but failed to score in the final inning after loading the bases with one out. Clark White's double in the top of the seventh drove in the winning runs for the Pumas. Final standings for the regular season were:

| | WON | LOST |
|----------------------|-----|------|
| Fighting Pumas | 9 | 1 |
| Mighty Instrumentals | 8 | 2 |
| Aero | 5 | 5 |
| TGD | 3 | 7 |
| RFE | 3 | 7 |
| Space Science | 2 | 8 |

Congratulations to the Pumas and to all the teams in the league for their remarkably improved play during the past season.

WANT ADS

The Astrogram's ad section is provided as a personal, non-commercial service to Ames employees. Advertiser must be identified by name, extension and organization. The name may be left out of the ad but is needed for records. Ads must be submitted in writing to The Astrogram, N-241-4, by Thursday, a week before publication. The advertiser's home telephone number must be provided as a point of contact except in carpool notices.

AUTOMOBILES

For Sale: 1962 Ford T-Bird, 390 cubic inches, Full Power, Air Conditioning, \$300 or best offer, Call John Gilbert 327-9746.

For Sale- 1969 VW Bug, just like new, must sell, \$1550, Bill Gideon, 243-2480.

For Sale- V.W. 1968 Bug, beige leatherette interior, radio, push out rear side windows, excellent condition \$1350, Van Etten, 245-2165.

For Sale- Leaving the country - 1963 Oldsmobile Dynamic 88, power steering and brakes, automatic. Very good condition, \$550.

For Sale- 1965 Pontiac Tempest, Le Mans, 2-door hardtop, 326 cu. in., auto. trans., bucket seats, power steering and brakes, radio and heater, low mileage, \$950, Call, 257-3771.

MISCELLANEOUS

For Sale- 1969 Honda "90", 8 H.P., 4 speed, 5 months old, like new, with 400 actual miles, including 1970 Lic. Asking \$350, call 739-2685, after 5 p.m.

For Sale- Violin, 3/4 size, Hand Crafted, copy of Alexanderis Emilus Era, Bavarious, \$60, Phone 243-1392.

For Sale- Short Medium Brown Kanekalon Wig, never worn. New \$30, asking \$15, call 253-5445.

Fishing- Anyone interested in a Salmon Fishing trip out of San Francisco, October 7, call A. Bogart.

Wanted- Quality used metal lathe, 10 inch or larger and tooling. Call P. Talbot, 257-3478 after 6 p.m.

For Sale- Encyclopedia Britannica, Deluxe 1962 Edition. Just like new! \$200, book case and World Atlas included. Call 377-1311.

Wanted- 3 speed used girl's bike, 26" wheel, will pay \$10. Willing to repair. Call Courtney Stephens, 257-2664 after 5:45 p.m.

For Sale- Rare Chocolate Point Siamese kittens. Male and Female, championship blood lines. \$35 with pedigree papers. 253-4475.

Found- in H.A.B. Building (N-229) Lobby, a pair of black rimmed glasses in brown case. Had been there several weeks. Call ext. 3164 or pick up in 132 A.

Wanted- Motorcycle trailer, call Genie DeGabin, 368-4888.

For Sale- IRE/IEEE, Proceedings and Transactions, various years, call 243-8963.

For Sale- AKC German Shepherd Puppies, will make good watch dogs, safe with children, call 734-2121.

For Sale- Suzuki 150 motorcycle, 1967, \$185, call 245-2185.

For Sale- Mahogany Duncan Phyfe (Jr.) dining room set, including buffet and 6 chairs \$75; solid maple trundle bed set (no spring or mattresses \$35) exercise, like new \$35; chrome car-top carrier; \$20 Motorola (4-speed, solid state stereo/record player \$25, call 377-4026, evenings and weekends.

For Sale- Janzen Z-600 electrostatic speakers. New in original cartons, with warranties \$350, a pair. This is 20% off retail price, call 738-2948.

Wanted- One Derby hat, one VW right, rear fender 1964, or equal.

Back to school Kittens!- For full description of colors, age, and charms, call Bob Taylor at 948-4941.

For Sale- Leaving the country - TV, portable, black and white, Sears 17" screen with earphone. Almost new. Radio, small A.M./F.M., \$50 and \$10 respectively, A. Bar-Nun, ext. 2841

For Sale- Keeshond puppies, \$85, AKC papers, champion line, shots, good watch dog and pet. 30-50 lb. fullgrown, related to Husky and Samoyed. Ready for new home by Sept. 14 (5 weeks old). Earl R. Keener, 525 Pomeroy Avenue, S.C., 241-4459.



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THE H. JULIAN ALLEN AWARD . . . for the best scientific engineering paper written by a member of the Ames staff was presented recently to Dr. Dale R. Lumb (center) and Larry B. Hofman (right), Spacecraft Data Systems Branch, pictured as they received the award from George A. Rathert, Chief of the Simulations Sciences Division and Chairman of the Award Selection Committee. The ceremony preceded a talk by Dr. Lumb on the winning paper entitled "An Efficient Coding System for Deep Space Probes with Specific Application to Pioneer Missions." The award for this special achievement was a certificate and honorarium of \$1000 which the coauthors shared.

H. Julian Allen Award Presented

The first H. Julian Allen Award, established early this year to recognize the best scientific engineering paper written by a member of the Ames staff, was presented recently to Dr. Dale R. Lumb and Larry B. Hofman of the Spacecraft Data Systems Branch, coauthors of "An Efficient Coding System for Deep Space Telecommunications."

The award for this special achievement included a certificate and an honorarium of \$1000 based on intangible benefits. George A. Rathert, Chief of the Simulation Sciences Division and Chairman of the Award Selection Committee, made the presentation at a ceremony which preceded a lecture by Dr. Lumb based on the paper that earned the award.

This first year the Selection Committee also recommended that there should be two awards. The second was honorary recognition for a paper selected from all the excellent papers published in the past which will set the standard for the future. This award was given to H. Julian Allen and Alfred J. Eggers,

Jr., for their paper entitled "A Study of the Motion and Aerodynamic Heating of Ballistic Missiles Entering the Earth Atmosphere at High Supersonic Speeds." Mr. Allen who retired as the Center Director last year, attended the ceremony and personally accepted the award certificate from the Director, Dr. Hans Mark.

Low Acting NASA Administrator

Dr. Thomas O. Paine, who joined NASA in 1968 as deputy administrator and became administrator later that year, left the agency September 15 to return to the General Electric Co.

In a recent communication from NASA Headquarters Dr. George Low was named acting administrator pending action by the President to name a successor to Dr. Paine.

W.L. Williams New Personnel Officer

William L. Williams, former head of the Manpower Analysis Office at Langley Research Center, has assumed his duties as the Chief of the Ames Personnel Division.

A career Federal employee, Mr. Williams brings to the Center more than 11 years of experience in the personnel management field. His service began at Langley in 1959 as a placement assistant. A year later he was named a classification assistant and in 1964 he was appointed as the Center's classification officer. He has served as executive assistant to the assistant director for



WILLIAM L. WILLIAMS

administration, and was named to the Manpower position last Dec.

For the past four years Mr. Williams has been serving as a part-time instructor in the George Washington University's local graduate program in administration and prior to leaving for his new assignment here he was assistant professor of business and public administration.

Several articles written by Mr. Williams have been published in Indiana U's Graduate School of Business "Business Horizons" and the "IEEE Engineering Management." He has also presented several management papers before national and international meetings. He is to present an invited paper before the American meeting of the Institute of Management Sciences in Los Angeles on October 19.

A native of Warren, Ohio, Mr. Williams was graduated magna cum laude from Youngstown State University in 1959 with a B.S. degree in business administration. In 1961 he earned a master's degree in personnel management from George Washington University. He later received a National Institute of Public Affairs Fellowship as a result of nationwide competition which entitled him to an academic year at Indiana University where he earned a master's degree in public administration in 1966.

Mr. Williams was active in the Langley Center and community activities and looks forward to becoming equally involved in his new environment.

At present Mr. Williams and his wife, Doris, and their two children, Brian Lee, 11, and Susan Beth, 2, are making their home in Sunnyvale, and will be moving to Saratoga the early part of next month.

U.S. SAVINGS BONDS

E Bond Interest Rate Increased

On August 24, President Nixon signed legislation increasing the interest rate on all Savings Bonds from 5 percent to 5 1/2 percent. The 1/2 percent increase applies to all E Bonds issued on or after June 1, 1970 and to all outstanding E Bonds previously purchased. Outstanding E Bonds that have not reached their first maturity will receive the 1/2 percent increase for semiannual interest periods beginning on or after June 1, 1970, payable as a bonus at maturity. Outstanding E Bonds that have reached their first maturity or are extended beyond first maturity will have the 1/2 percent increase credited at the end of each semiannual interest period beginning on or after June 1, 1970, through their next maturity. After maturity the bonus is payable whenever the bond is redeemed. The maturity period for E Bonds is 5 years and 10 months.

Due to the increased interest rate the U.S. Treasury has established an annual limitation of \$5,000 (issue price) on the purchase of E Bonds for each calendar year. The limitation applies to bonds purchased and registered in the name of an owner during a calendar year. Bonds registered in the names of co-owners may be applied to the purchases of either person or apportioned between them. Bonds registered in beneficiary form are applied to the owner's purchases.

If you have any questions regarding your present bond allotment, contact the Payroll Office, Ext. 2317.

New Hours for the Credit Union

In order to give better service to its members the Moffett Field Employees Credit Union is now open on Saturdays from 10 a.m. to 1 p.m. and on Mondays from 10 a.m. to 5:30 p.m. The regular schedule of 10 a.m. to 4 p.m. will continue to be in effect the remainder of the week (Tuesday through Friday).

Now that the assets of the Credit Union have passed the \$2.5 million mark the activity is busier than ever. It is hoped that the additional hours will expedite transactions and improve the operations.

AIAA Section Meeting Notice

The San Francisco Section of the American Institute for Aeronautics and Astronautics (AIAA) will hold the first dinner meeting of the new season on Thursday, October 8 at Tressidder Memorial Union on the Stanford Campus (Room 282).

Dr. Nicholas J. Hoff, Chairman of the Department of Aeronautical Engineering and the Department of Aeronautics and Astronautics at Stanford, will present an illustrated lecture entitled "Little Known Inventors of the Airplane."

A social hour will begin at 6 p.m. followed by dinner at 7. The Hoff address is at 8 p.m. Reservations may be made with Velvin Watson, Ames ext. 2696.



COMMENDATION . . . A plaque commending outstanding contributions to the success of the Barbados Oceanographic and Meteorological Experiment (BOMEX) was awarded recently to the Airborne Science Office and the flight crew of the NASA-Ames Convair 990 aircraft. Dr. Michel Bader (left), Chief of the Space Sciences Division and Airborne Science Office, accepted the plaque which Dr. Hans Mark (right), Ames Director, presented on behalf of Dr. Robert M. White, Administrator of the Environmental Science Services Administration (ESSA). A letter from Dr. White accompanying the plaque expressed his personal gratitude for NASA's participation and "the splendid performance of the aircraft and crew."

Dr. Miquel Honored by National Society

Dr. Jaime Miquel, Chief of the Experimental Pathology Branch, has had the honor of being invited to change his status from Member to Fellow in the Biological Science Section of the Gerontological Society. The Society is a national organization for research on aging.

Dr. Swan Congressional Fellow

Dr. Paul R. Swan, Assistant Director for Space Missions, O-ART Mission Analysis Division, will participate in the 1970-71 Congressional Operations Fellowship Program in Washington, D.C. which begins in mid-November and continues to September.

The fellowship, offered by the Civil Service Commission in cooperation with the American Political Science Association (APSA), is designed to provide an opportunity for some of the most promising federal executives to acquire a thorough understanding of Congressional operations.

Activities of the program include an intensive and comprehensive orientation program on the Legislative Branch conducted by the APSA; full time work assignments in the offices of congressmen and senators and with staff members of congressional committees; and weekly seminars with leading congressional, governmental and academic figures.

Dr. Swan joined the Mission Analysis Division staff in 1966. Prior to that time he was with AVCO/RAD in Wilmington, Mass. for four years, advancing from assistant chief of the Special Projects Section to Manager of the Space Sciences Department. His early career was with the Union

BIOMEDICAL RESEARCH

Dr. Lutwak Awarded Research Associateship

Dr. Leo Lutwak, Jamison Professor of Clinical Nutrition at Cornell University, was recently awarded a National Research Council Senior Research Associateship at Ames. Dr. Lutwak is working with Dr. Donald Young of the Biomedical Research Branch on problems associated with calcium metabolism.

For several years Dr. Lutwak has been actively involved in calcium research. He was co-investigator on the Gemini 7 space flight for studies of calcium balance; he is also a co-investigator for similar studies in the forthcoming Skylab series.

At Ames Dr. Lutwak's studies will include the use of balance techniques, assessment of bone composition by photon absorption techniques, and investigation of immobilization and effects of applied loads on the skeletal system, and an investigation of the dynamic characteristics of the blood calcium response.

SAN JOSE
CENTURY 24 246 3629
WINCHESTER BLVD. & FWY. 280

Paramount Pictures Presents A Howard W. Koch-
Alan Jay Lerner Production Starring
Barbra Streisand / Yves Montand

On A Clear Day You Can See Forever

NASA AMES RESEARCH CENTER

GROUP RATES

Sunday Evening through Thursday Evening Only
Except Holiday Evenings

| | Regular | 10% disc.* | 15% disc.* | 20% disc.* |
|--|---------|------------|------------|------------|
| Evenings | \$2.80 | \$2.55 | \$2.40 | \$2.25 |
| *Group of 25-99 = 10% 100-199 = 15% 200 & over = 20% | | | | |

GROUP SALES MAIL ORDER

Make checks or money order payable to CENTURY THEATRES and mail to
SPECIAL EVENTS, 3164 Olsen Drive, San Jose, Calif. 95117

Please send me _____ tickets at \$_____

Date Oct. 11, 1970 Time of performance 8 p.m.

My check for _____ is enclosed.

Name _____

Address _____

City _____ State _____ Zip _____

Please enclose remittance and a stamped self-addressed envelope. All ticket requests must reach theatre seven days prior to show date, and tickets will be mailed soon after.

BASKETBALL

The All Ames Basketball League will begin its season around the first of November at Sunnyvale High School. If anyone is interested in playing basketball in the Ames League please contact Bruce Ganzler, ext. 2747.

ASTROGRAM Room 134
Admin. Mgt. Building
Phone 2385

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Editor Dot Evans
Reporters NASA Employees

Deadline for contributions:
Thursday between publication dates

Special Discounts Offered to Personnel at Ames

Membership cards, mail order discount coupons, and other special offers are available without charge for all Ames employees, tenant organizations at the Center, and retired Ames employees. Contact The Astrogram Office, Room 134, Administration Management Building.

DISCOUNT CARDS

DISNEYLAND: Magic Kingdom Club cards for special benefits at Disneyland.

FRONTIER VILLAGE: Frontier Wonderland Club Cards for special benefits at Frontier Village.

SANTA CRUZ BEACH and BOARDWALK: Beachcomber Club cards for a 30 percent discount.

SEA WORLD: Ames employees can now receive reduced rate tickets to Sea World, on Mission Bay, San Diego, through Sea World's Dolphin Club plan.

DISCOUNTS

FURNITURE: Cards are available for the House of Karlson, San Francisco.

TIRES: Gerard Tire Service, Keith's Tire and Brake Service Capitol Tires, San Jose, and Du-Wall, Mt. View.

AUTOMOBILES: Buy or lease any new automobile at fleet prices from Rancar, Inc., Los Altos. All Makes available.

JEWELRY: Michael's Jewelry, Moonlite Shopping Center, Santa Clara, and Princeton Plaza, San Jose.

DINNER CLUB: International Dinner Club coupon books for \$5, order forms available.

1970 SKI SHOW

Special admission tickets are available, in "The Astrogram" office for the International Ski & Winter Sports Show to be held at the Cow Palace Friday, October 2 through Sunday, October 4. This year's show will feature ski stars Billy Kidd, Stein Eriksen and Penny Pitou in addition to exhibits of the latest in ski equipment, fashions, and travel. Another feature is a Snowmobile Information Center and a Ski Swap. The show offers entertainment for the whole family and singles alike.

1970 GRAND NATIONAL ARENA SHOW

A special discount is being offered for the 1970 Grand National Arena Show at the Cow Palace. The \$2 discount will be good for five different performances. For information contact "The Astrogram" office.

Part I 1970

Page from the Past

1940-1955



RECORDS ROUNDUP



Ames Airings . . . by Jeanne Richardson

It seems we have a swinging Computation Division at Ames. August 29, forty people from the Division got together for a little roast pig and Poi. SONIA BERNARD and her husband, Robert, hosted one of the finest luau's this side of Hilo, with a little help from their friends. MARCIE SMITH acted as co-hostess, and NOEL DELANY, HARRY NAKAYAMA and LORETTA SCHNEIKERT (all of the Computation Division, naturally) helped with the preparations.

Speaking of preparations, if you are bored with the same old barbecued spare ribs, try roasting a pig in your backyard this weekend. All it takes, according to the Bernards, is a hole, three to four feet deep; a whole pig, prepared specially by any butcher you can find to do it; a good supply of hot lava rocks, and a large amount of banana leaves. However, you must have the patience of King Kamehameha, himself, as it takes four hours to fully roast.

From the reports in, it sounds as though most of the Division made it through those four hours just fine. Mai Tai's and marinated (Terry-aki) beef kept everyone content until the guest of honor could be uninterred and served. With the pig called Kalua pig, Chinese rice (which is really noodles), chicken wings, Lau Lau, (an Hawaiian fish) wrapped in leaves, and pineapple completed the feast.

NATALIE BOSSIO, (Computation Division, of course) who had just returned from a great eight day tour of the islands, said the food was better in Sonia's backyard than in Hawaii. Sonia, who was born in Hawaii, and her husband, Robert, make an annual thing of luau's,

so they are expert pig roasters. From all reports, the luau was a squeeling success, with everyone thoroughly enjoying themselves.

Leaha May Shelansky was born recently to proud papa DAVE SHELANSKEY (Electronic Instrument Branch) and his wife Wanda. Seven and a half pound Leaha is being watched over carefully by her big sister, two-year-old Rory. Congratulations Dave and Wanda!

FAST PITCH SOFTBALL

. . . by Jim Myers

The Ames team ended the season a winner and for the last time this year we struck terror into the hearts of the opponents as we drubbed Hewlett Packard Warriors 10-3. Our second half showing was a respectable 5-3 and a 11-5 record for the year in the Mountain View "B" League.

Again for the second time in two games, Steve Kanally led the playing, stealing home with the bases loaded. Mike Green led the hitting, and threw in two base raps out of the five the team got.

This concludes our softball for the year. The team wishes to express their thanks for the support given to them by their loyal fans.

BOX SCORE

| | POS | AB | R | H |
|------------|-----|----|---|---|
| E. Lampkin | RF | 2 | 1 | 1 |
| G. Alger | SS | 2 | 0 | 0 |
| M. Green | 1B | 3 | 1 | 2 |
| R. Hedlund | CF | 2 | 1 | 0 |
| B. Bell | C | 1 | 2 | 0 |
| B. Ganzler | 2B | 2 | 2 | 1 |
| J. Myers | 3B | 3 | 0 | 0 |
| S. Kanally | LF | L | 2 | 1 |
| B. Holmes | LF | 0 | 0 | 0 |
| B. Corbett | P | 1 | 1 | 0 |



UNVEILING OF THE PIG . . . (left to right) Dan Hanog, Robert Bernard and Cesar Alcordero lift the Kalua roast pig from the pit at the Computation Division luau. SONIA BERNARD (Computation Division) and her husband, Robert, hosted the truly authentic Hawaiian luau at their home.

GOLF . . . by Kay Bruck

The foggy wetness of the Pasatiempo tournament on Sat., Sept. 12, failed to dampen the spirits of the finalists who played the first 18 holes of the 36-hole playoff for the Ames Handicap Matched Play Championships.

First flight: Howard Matthes is 3 up over Yuko Asato; Second flight: John Rakich is 1 up over Al Petretti; Third flight: Paul Kutler is 1 up over D. Sinnott; Fourth flight: Tom Polek is 1 up over Bert Nevotti.

The remaining 18 holes for the championship will be played at Riverside. Winners of the regular tournament

First flight: Feo Corsini, first place; Al Petretti, second place; Debbie DeBevoise, third place; and Roger Hedlund. Second flight: John Rakich, first place; Don Dust, second place; and Ben Tyson and Howard Matthews tied for third and fourth place.

Third flight: Vance Oyama, first place; Dick Johns, second place; Del Norman, third place; and Don Davis and Wiley Smith tied for fourth place.

Closest-to-the pin on the 15th hole was Ed Stepnoski.



WANTED! BASKETBALL PLAYERS

The Ames Industrial league basketball season is just around the corner. Anyone interested in having a good time and getting some exercise while representing Ames in the community is invited to attend the first organization meeting, Tuesday, September 29, 12 noon, Bldg. 239 (Life Sciences), Room B-39. If you cannot make the meeting, but would like more information, call Emmett Lampkin, ext. 2957, or Bob Holmes, ext. 2228. The team plans to play in the Mt. View Industrial league this year.

WANT ADS

The Astrogram's ad section is provided as a personal, non-commercial service to Ames employees. Advertiser must be identified by name, extension and organization. The name may be left out of the ad but is needed for records. Ads must be submitted in writing to The Astrogram, N-241-4, by Thursday, a week before publication. The advertiser's home telephone number must be provided as a point of contact except in carpool notices.

AUTOMOBILES

For Sale-1968 Imperial, like new condition, over 20,000 miles left on warranty. Mary Campbell, 248-9442, FM-AM Multiplex stereo.

For Sale-1969 Chev. station wagon, V8, 283, radio heater, automatic transmission, \$250, 739-9044.

For Sale-1965 Comet Caliente, V8, Auto, R & H P.S. one owner, call 225-2228.

For Sale-1965 Plymouth Fury 1. 2-door Sedan, Factory A/C, stick shift, good condition. Available in mid-November. \$560. Call Chadha, 325-1437.

For Sale-1966 Mustang, 6 cyl. sprint 200, Hunter green, white interior, auto. transmission, excellent condition, clean. \$1100. R.D. MacElroy, 736-4858, after 7 p.m.

MISCELLANEOUS

For Sale-1970 18 ft. Las Vegas Sahara, Ski boat, 2 months old, full canvas and all accessories, 115 H.P., Merc. \$3500, call ext. 2232 or 964-3276. Jim Peterson.

For Sale-Hair Dryer, Professional beauty shop type. Heat selector, aqua, \$17. Call after 5 p.m. 258-1675.

For Sale-12 GA. Shotgun, Savage model 67, pump asking \$30. Call 264-5450.

For Sale-Hartman Steamer Trunk 21" x 21" x 40", \$10, call 948-5602.

For Sale-4 Ansen sprint mags 7" x 14" to fit small mopar bolt pattern. 2 sets of mag locks included \$130, call S. Travis 245-7179.

For Sale-Speaker cabinet 24" x 29", Cherry wood, with 12" and 6" speakers and input jacks, \$12, 356-9695.

For Sale-Keeshond puppies, AKC, excellent with children, 30-50 lb. fullgrown. Earl Keener, 241-4459.

For Sale-Tape deck - y track with speakers and several tapes, all for \$35, 356-9695.

For Sale-Beautiful Singing Canaries, 739-6054.

For Sale-2 ea 15" Chrome Wheels, with baby moons, both for \$20, 356-9695.

Wanted- Small garden tractor and rototiller, call Mr. Brooks 356-9695.

Wanted-Teardrop camp trailer, metal, must be lite-weight. 941-6099, after 5 p.m.

Wanted-Would like to purchase a used copy of Columbia Encyclopedia, 3d ed., 1963, Call Kitty Foutty, 327-6407.

For Sale- Suzuki 150 motorcycle, 1967. \$150, call Van Etten, 245-2165.

HOUSING

Sublet-1-bedroom apt. for 2 months, beginning Oct. 1 thru Nov. 30. A doctor, his wife and 14 month child. He will be stationed at Moffett Field for training. Want to pay \$150 a month. In or around Mt. View area. Mr. J. Lepetich, call 2845.

For Sale- land two acres, Saratoga Hills, beautiful view among shady oaks, utilities available asking \$26,000, 20% down, call Dave Mendenhall, 257-2738.

Wanted- One Derby hat, one VW right, rear fender 1964, or equal. Call Paul Schillerstrom, 293-4439

Wanted- 3 Ames bachelors to share a large San Jose home with pool. \$125 per month, call M. Chargin, after 6 p.m. 225-4297.

For Rent-Vacation cottage, Sunnyside area of Tahoe 2-bedroom, walk to beach or marina, \$70 per week, \$30 per weekend until winter season. Call 328-4642.

For Sale-3-bedroom home, 2 baths, AEC, carpets and drapes one year old, New paint, inside and out. New furnace, shutters in 3 rooms. Walking distance to shops, schools and churches. 1 block from bus line. Current FHA 5 3/4 percent loan. Call 248-9442.

For Sale-1969 Firebird, 350 c.i., P.B., P.S., Facit air, mag wheels, Landau top, low mileage, MUST SELL, \$2700, call 968-5010, Bill Shaw.

Wanted-People that don't like to drive to work every day . . . to join a car pool from Good Sam. Hospital area, 8-4:30 shift. Have two, need two or three to complete the group. Call L. Graham ext. 2252, or Joe Astaifa ext. 2823.